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ABSTRACT

The author contends that the openness of a program can be determined by the opportunities which are provided for certain behaviors, activities, and events to occur. Even though the specific content of the open education programs may vary, the degrees of freedom for behaving or the relative presence of opportunity for diverse involvement do not. The paper describes procedures and research undertaken to measure this facet of openness by means of a program structure index and a specific version of the procedure, the Open Program Structure Index (OPSI). The concern of the general procedure is to characterize the extent to which it is possible for a specified behavior, activity, or event to occur in a program setting, and illustrations of the use of this procedure are included. In the Open Program Structure Index, 15 specific items are used as the behavior and activity criteria, and the program is specified as it occurs on a typical day. Ratings are made for each criterion used and for each time period described. The procedure has been used to index openness in several school and early childhood programs and appears to be metrically adequate. Indications are that OPSI can be used to index a full range of programs reliably and validly, and that it is also adaptable for rating the components of a program. (MBM)

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What's Open about Open Education? Some Strategies and Results

by

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My topic is "What's Open About Open Education?" I plan to talk about strategies and some results of my work over the past few years in attempting to measure program structure. More specifically, I'll discuss one of the measures I've been working on ... and some research which has been done with the measure ... and some implications.

Let me begin by saying that I think there are two rather different points of view within the group of proponents of open education: the first is that open education (as defined by the individual proponent) is a good thing ... so let's get on with it and do a good job; the second point of view is that since open education is an alternative to more conventional programs, it will be useful to determine how it is different and, ultimately, whether the consequences deemed desirable do, in fact, actually occur. I am clearly of this latter group. I hold that programs for children have definable, identifiable characteristics and that openness is one such characteristic. Therefore the issue for me is, "What are some ways of assessing openness?" Answers to this question will allow the further investigation of the consequences for children who participate in programs which are more open contrasted with those which are more closed.

I am clearly a proponent of open education. However, this is a factor in my research only inasmuch as it has motivated me to pursue certain kinds of program documentation instead of

of others. My concerns have been that if we, as a society, are spending billions for programs to benefit children, we certainly need some evidence that the programs make a difference. At the present time this remains mainly an assumption. We have seen little evidence that any specific program makes more than temporary differences for children's development and/or learning.

The most striking evidence of program effects that we have accrued to date comes from the highly manipulative programs of bahavioral modification/reinforcement which focus on relatively molecular objectives. There is all too little evidence of effects for children from the kinds of programs that I personally prefer ... that is, programs which have more options and thus, theoretically, at least, ought to affect greater cognitive as well as social development in children.

I have been very concerned that the majority of the programmatic research that has been done has focused on "experimentally" simple programs whereas I would expect that it is the more complex programs which promote more growth in children. These, however, are virtually impossible to do experiments on and, therefore, don't get researched. We, therefore, have the paradox that when there are decisions to be made on the kinds of programs to fund or adopt, the pre-packaged simple-minded programs get the money ... because there is little data suggesting that alternative programs are effective.

I've already implied something about program, program structure, etc., but before I continue further, let me pause to

define some of these terms as I use them. When I use the term program I refer to an event which is purposely established, has continuity, and which has aspects which are encountered or may be encountered by the participant. Program structure refers to the facets of a program which impose constraints on the participants, for example, the time constraints during which certain kinds of behaviors may occur. Dimensions of program structure refer to the product of analyzing programs so as to be able to specify the components of a given program or how programs are similar or different. "Openness" is the dimension of program structure of concern in the discussion to follow.

If one is to determine the extent to which one program is alike or different from another or to determine consequences of programs for children, specificity becomes essential. Referential specificity is often something a researcher must impose upon a phenomenon to be examined. This is especially true when studying programs because program planners and implementers often use labels in a very non-precise manner. Many programs which are "in fact" different--are called by the same name (or are described in the same way). Also many programs which are referentially the same are described with different terms. One is usually in the position of inferring what a program is like--from the label--rather than knowing what a program is via some objective description. In this regard, let's look at some of the potential synonyms of "open" education: British

Infant School, individualized instruction, informal education, Bank Street model, child development model, E.D.C. model, responsive day care, responsive environment, continuous progress, family plan, integrated day, schools without walls, free schools, Summerhill School, Architectually Open School, British Primary School, Open Plan School, Leistershire Plan, Integrated Curriculum, Non-Graded System, Progressive Education, Affective Education, Parkway Program, Life Adjustment Education, Open Learning Environments, Responsive Instruction, Unobtrusive Teaching, Flexible Curriculum, Interrelated Studies, Piaget-Based Curriculum, Experiential Approach, Unscheduled or Unstructuree Day, Vertical Grouping, Humanistic Education, North Dakota Plan, Infant School, Nuffield Math, Activity Centers, Informal Teaching, Learning Centers, Flexible Model, Street Academies, Nova Plan, World of Inquiry School, Ithaca East Hill School, Open Access Program. Each of these terms are assumed to have <u>some</u> relationship with <u>some</u> version of the concept of openness. Each of you could double this list off the top of your heads. But in any given program <u>which</u> version of openness--and <u>what</u> is it that children are encountering?

Regarding any particular program or program type ... how would you go about knowing without visiting or even after visiting, how "open" it was? How it compared with any other "open" school? or, for that matter, any other quasi-open or conventional school?

As many of you know, some of these terms are used interchangeably, some are not used at all regarding a program which may actually be the same in most respects as another program which has a similar label. Often these terms are used to designate programs which in virtually no way resemble programs otherwise described as open. For example, several relatively conventional public school programs in upstate New York are referred to as an "experiment" in open education (following from Commissioner Nyquist's endorsement of such a plan). They are referred to as open even though (1) children are all the same age (contrasted with multi-aged or family grouping), (2) the classroom day is time-subject segmented, instead of integrated, (3) there is total division of labor between administration and teachers, (4) there is little variety of materials provided for children's use, (5) there is little accessibility to those materials that are present, (6) success of program is determined by normative group-administered tests, contrasted with an individual child's growth (measured against himself at a prior time), (7) there is no"phasing in" or staggered entre, (8) there is little differentiated space use in the program. I suspect each of you can cite similar examples.

All of this prior discussion is making the point that although labels are easily attached to programs, especially popular programs and "open education" is a prime example.

more precise means are necessary to "get at" the question of the ways in which any one of an assorted set of programs classified by that label is actually similar to or different from other kinds of programs.

The point is that we have a lot of programs around these days; some programs are thought, for some reason, to be alike in some ways; some are thought to be different. We attach labels and then proceed to draw conclusions about the effects of these programs on children. I think there are at least two fallacies here. The first is that we continue to think we know what programs provide for children, when in many cases we don't. A second fallacy, based on the first, is that we then draw conclusions about the effectiveness and desirability of programs. To summarize, my concern has been to take a close look at what goes on in programs--beyond the labels--with the goal in mind of eventually better understanding the different kinds of impact which is made on different children through participation.

As a final point in this introductory sharing with you of some of my concerns and values, let me tell you one of my biases. It seems to me that if open education is anything at all that can be distinguished from other approaches to education, it is a <u>potential</u> ... a potential for something to occur as contrasted with the impossibility of something occurring.

I have been describing some of my concerns, and a point of view. I would now like to describe some of my efforts in dealing with these concerns both in instrument development and related research. First, I'd like to briefly describe a procedure which I call a program structure index and then I'll describe a specific version of the procedure, the Open Program Structure Index or OPSI.

The concern of the general procedure is to characterize the extent to which it is possible for a specified behavior, activity, or event to occur in a program setting. The question addressed is: What is the probability that if a child had a need or an interest, it could be met or accommodated by the program? The procedure requires, first, a specification of criteria in which one is interested. These are usually stated as behaviors, activities, or events which might be seen as desirable or beneficial. The second requirement is a description of the program as it is typically organized in time or as it occurred on a given day. This description requires a format which specifies the time boundaries within the program. Boundary here refers to the expectations of the teacher for what may, will, or should occur, when. The program description may be provided by any teacher, administrator, program planner or developer thoroughly familiar with a given program. The third requirement is the thoughtful characterization by this respondent of the extent to which the behaviors,

activities, and events which are used as criteria are possible to occur, without negative sanction, within the specified time segments across the day. In summary, there must be a specification of those behaviors, activities and events the user is interested in indexing, and then a listing by a respondent of how the program is actually organized, and the extent to which the behaviors, activities, or events are possible to occur in each of the time periods.

Figure 1 shows an abbreviated version of this general procedure. You will notice under "A" that some illustrative criteria are specified (in this case--running, talking, working with math materials). These are examples of behaviors that a program planner, researcher, or teacher might find desirable to index. "B" depicts the schedule of the hypothetical kindergarten as it is arranged through time for a day. The assumptions made by the teacher respondent of this hypothetical program are indicated by the ratings in section C regarding when the behaviors and activities are O.K. to occur, that is, when she would not negatively sanction their occurrence.

You will also notice in this example that the teacher-respondent used + to indicate that it's generally O.K. for the behavior to occur, and 0 when it's generally not appropriate, from her point of view, for the bahavior to occur.

The program structure index is then scored by converting all ratings to the time they represent. The time during which

FIGURE 1

ILLUSTRATION OF PROGRAM STRUCTURE INDEX PROCEDURE

Key to Ratings:

+ generally OK for behavior, activity or event to occur

0 generally not OK

		A. CRITERION ITEMS (EXAMPLES)						
	B. PROGRAM DESCRIPTION	RUN OR MOVE RAPIDLY	TALK INFORMALLY W. PEERS	WORK WITH MATH MATERIAL	C. RATING	TIME	D. SCORING	
8:30-8:40	Arrival	0	+	0	10	0	10	0
8:40-9:00	News/sharing	0	0	0	20	0	0	0
9:00-9:45	Activity Period	0	+	+	45	0	45	45
9:45-10:00	Discuss/share	0	0	0	15	0	0	0
10:00-10:15	Snack	0	+	0	15	0	15	0
10:15-10:45	Outdoor Play	+	+	0	30	30	30	0
10:45-11:05	Story	0	0	0	20	0	0	0
11:05-11:25	Music, rhythms	0	0	0	20	0	0	0
11:25-11:30	Dismissal	+	0	0	5	5	0	0

Time for behavior, activity or event	35	100	45
Total program time	180		
Percentage	19.4	55.6	25.0

the behavior, activity, or event is possible is then added and together becomes the numerator for determination of a %. The denominator is the total time of the program day. In this particular example you will note that of the three criteria indexed, running is potentially "O.K." 19.4% of the time. Talking informally with peers, 56% of the time, and working with math related materials, 25% of the time. The percentage reflects or indicates the extent to which a specified behavior, activity, or event can occur during a typical or a given program day.

Another way of viewing the percentage is, of course, as a probability statement. Let's go back to the original question for a moment. What is the probability of a child's need or interest (were it to occur) <u>being accommodated</u> by the program. In this example, interest in running, or need to run is accommodated by the program, or more specifically, by the hypothetical teacher respondent, less than 20% of the time, talking informally with peers is accommodated approximately 56% and working with math materials 25% of the time. The probability that a child would be negatively sanctioned were he to initiate running behavior is very high, 80% of the time. While these characterizations are only illustrative, I think they show you generally how the procedure works and some possible interpretations.

Again, what is indexed by this procedure is the extent to which the respondent would accept without negative sanction,

the occurrence of a behavior, activity, or event were these to occur. It says nothing about whether the behavior actually did or will occur. It is at this point that the procedure differs from other procedures which attempt to document program structure and variation between programs in structure. This procedure documents possibility or potential, not actuality. Again, the scores which are determined address the question, what is the probability that if a child had a need, interest, or concern or wished to behave in a particular way that the behavior could be accommodated by the program without negative sanction.

Let me now describe a specific version of this general procedure, one which is concerned with openness. I call this the Open Program Structure Index or OPSI.

Relative to the first requirement, a number of behaviors, activities, and events are specified. While different items were tried out, 15 specific items have been used through most of my research. These 15 items, which are the behavior and activity criteria indexed by the OPSI, are as follows:

(A) go to the bathroom

(B) get a drink of water

(C) rest, be left alone, have privacy

(D) move freely around the room

(E) practice large muscle coordination (except running)

(F) practice fine muscle (eye-hand) coordination (other than with pencil or crayon)

(G) run, play with, tease, chase other children

(H) talk informally with other children

(I) receive responsive undivided individual attention from you (as the teacher) regarding something important enough to him to initiate contact with you

(J) informal* involvement in dramatic play

(K) informal involvement with music (singing, dancing, rhythms)

(L) informal involvement with art (painting, clay, wood-working)

(M) informal involvement in math, science, nature

(N) informal writing

(O) informal reading

Mention should be made that these items didn't come out of thin air; they reflect one point of view regarding optimal conditions for human development and learning. This point of view makes the following assumptions:

(1) A child cannot engage in optimal learning if basic physical needs are not met (no excessive discomfort from hunger, thirst, etc.).

NOTE: *informal means that there are options present and that children may choose from these options

involvement implies that space and materials which facilitate participation are provided

(2) A child cannot engage in optimal learning if there are few possibilities for encountering diverse materials/ situations.

(3) A child cannot engage in optimal learning if he has little access to the equipment, materials or persons which are present in the program setting.

(4) A child cannot engage in optimal learning in situations in which adults do not provide symbolic feedback, that is, abstractions such as words or classifications which serve as tools for differentiating experience, either directly or through modeling.

(5) A child cannot engage in optimal learning in situations in which the available and accessible materials as well as feedback provide no opportunity for a "match" (that is, optimal degree of descrepancy, as discussed by Hunt).

Those familiar with the literature will notice that these conditions are similar to but not identical with the assumptions listed by Barth in his Harvard dissertation.

The second requirement is the specification of the program as it occurs on a typical day, or as it occurred on a given day. The format usually used is shown in Figure 2. Were you the respondent you would be asked to indicate three things about the program you were describing: What occurs?; When does it occur?; and, for how long does it occur? Stated another way, you would briefly label each portion of your program day.

FIGURE 2

PROGRAM DESCRIPTION SHEET

TIMES	PROGRAM DESCRIPTION	TT

TOTAL TIME (MINUTES)

indicate the time during which it occurs, and then under T.T., which stands for total time, the amount of time in the time period.

The third requirement is for ratings to be made for each criterion used, and for each time period described in the program.

A rating sheet is shown in Figure 3. It contains space for rating each of the 15 criterion items relative to each of the time segments specified in the program description. Were you the respondent you would mark a + if a behavior or activity were permissible during a given time segment and a 0 if the behavior were not permissible, that is, if you would negatively sanction the behavior if it occurred.

To score the OPSI one only has to transfer the time that each plus represents, on to the scoring sheet, shown in Figure 4. The times for each behavior criterion rated, are then added up and recorded in the space below. Each is then divided by the denominator which reflects the total time of the program day. The resultant score reflects the percentage of time during the program day which the respondent allows the behavior to occur without negative sanction. These are the essential steps in using the OPSI.

To date the OPSI has been used to index openness in several school and early childhood programs. Preservice and in-service teachers as well as administrators have described

FIGURE 3

RATING SHEET

	BATHROOM	DRINK	REST	MOVE FREELY	LARGE MUSCLE	FINE MUSCLE	RUN-TEASE	TALK INFORMALLY	ATTENTION	DRAMATIC PLAY	MUSIC	ART	MATH-SCIENCE	WRITING	READING

FIGURE 4

OPSI SCORING SHEET

BATHROOM	DRINK	REST	MOVE FREELY	LARGE MUSCLE	FINE MUSCLE	RUN-TEASE	TALK INFORMALLY	ATTENTION	DRAMATIC PLAY	MUSIC	ART	MATH-SCIENCE	WRITING	READING

TIME POSSIBLE TO OCCUR

TOTAL PROGRAM TIME_____

PERCENTAGE

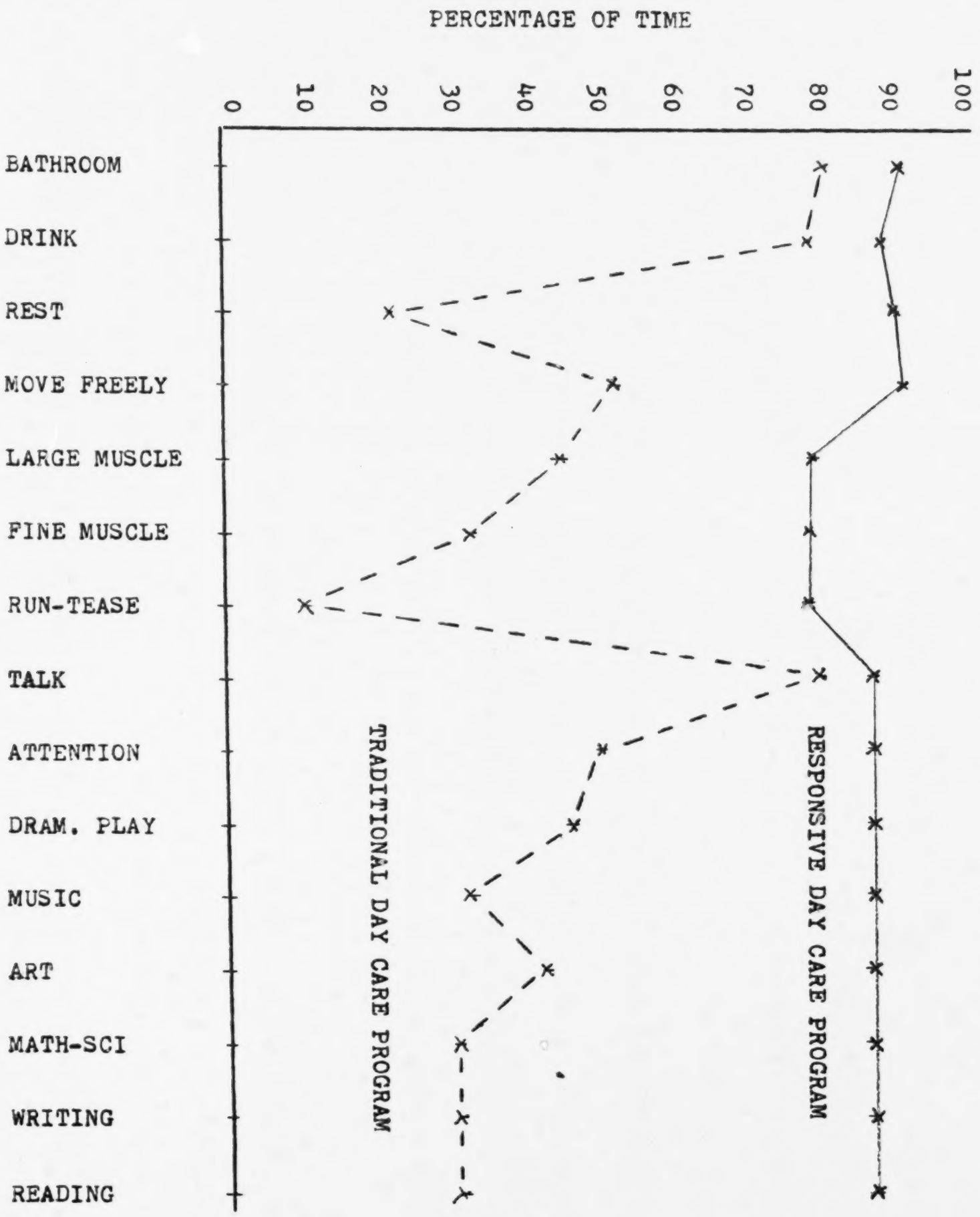
and rated both actual and hypothetical programs.

Let's look at some of the results. First of all, individual items and combinations of items appear to be metrically adequate. The same program is described and rated in similar ways, on subsequent occasions by a given respondent. And different respondents rating the same program have relatively high agreement. In addition, ratings made of programs with known structural differences produce different scale scores. For example, two day care programs are characterized with the OPSI criteria in Figure 5. The responsive care program was developed and implemented by Margaret Lay of Syracuse University. The other program is a rather typical suburban day care program. The programs both run for 10 hours a day. You will notice that although there are some similarities, there are also some obvious differences. Even a cursury examination of this graph, using these criteria of openness, shows that the probability of the program accommodating a child's interest or need, were an interest or need to occur, is much higher in the responsive than with the traditional day care program.

Another finding is that when we use the OPSI with teachers from different grade levels we find that children encounter less openness as they get older. That is, the probability that an interest or need would be accommodated by the program, is much less if the child is a sixth grader than if the child is a kindergartner. This finding is not surprising. It does however, provide additional confirmation of the validity of

FIGURE 5

A COMPARISON OF TWO DAY CARE PROGRAMS ON OPENNESS
WITH 15 CRITERIA FROM THE OPSI



the OPSI. It also points out a seeming paradox in education in America today. As children grow older and are presumably able to take advantage of more options, they encounter fewer.

Another finding which may be of interest, concerns how much openness is planned for by pre-service teachers. In a study I conducted last year, using the OPSI as a dependent measure, two kinds of influences on planning for openness were determined. Contrasting school organizational climates were simulated and student teachers who were assigned as new teachers to traditional schools were found to plan for considerably less openness than student teachers who were assigned as new teachers to a school simulating an infant school setting. Of equal interest to me, inasmuch as I'm concerned about teacher education, was the unexpected finding that student teachers, who had student teaching placements in more innovative school settings planned for more openness in this simulated task than student teachers who did their student teaching in more conventional schools. (Dopyera, 1971)

In general then, the OPSI appears usable for indexing a full range of programs, reliably and validly, although it appears to work better with respondents with some experience in planning and implementing programs than with persons with

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Dopyera, J., The Influence of Organization Climate and Teacher Trainee Conceptual Level on Planning for Openness in a Simulated Classroom Planning Task. Unpublished Ph.D. Dissertation, Syracuse University, 1971.

little or no experience. For example, undergraduates with no experience ask more questions about how to do the task and more questions about the items being rated than do undergraduates after practice teaching experience and/or experienced classroom teachers for whom the task is an obvious one. Use of the OPSI has also demonstrated that the procedure meets a number of criteria which indicators of programs should meet, if they are to be both theoretically and practically useful. The procedure is inexpensive both in cost and effort. Most respondents describing existent programs can complete the task in less than an hour and the materials cost less than a penny.

The procedure can be expanded to include any behavior, activity, or event that a particular researcher, program developer or monitor, or teacher wishes to index. For example, I've used the procedure to index child access to activity areas and materials in the classroom. In this regard, it should'nt surprose you that programs vary considerably in the amount and kind of materials present, and in the extent to which children have access to them.

The OPSI format is also adaptable for the purpose of rating components of a program. I remember when working with the Headstart evaluation effort visiting a Head Start class in Texas. Free play consisted of going to a toy shelf, picking out a toy and taking it back to the desk to play with. There was no talking allowed. There were limited toys to select

from and the child chosen by the teacher to pick first had the greatest number of options. What constitutes free play can vary considerably across different programs and the OPSI can be made sensitive to this kind of variation.

The OPSI may be used as a totally self-report device or in conjunction with an interview preceeding and/or subsequent to classroom observation.

The OPSI produces a descriptive contrasted with an evaluative index. How much openness is present in a program is described. Whether a given amount of openness is good, bad, or indifferent is not at this point the issue. These last two points, the descriptive contrasted with the evaluative emphasis, as well as the ability to collect data via observation and interview, in addition to the self-report question approach make the OPSI especially valuable for attempts to enhance communication via specificity. In this regard I see the OPSI as equally useful for teacher education, program development and planning, and administrative "quality control" of a program, as well as for research.

There are the following limitations: (1) when used as a self-report procedure both descriptions and ratings are subject to the "fake-good" or social desirability bias in reporting that all other self-report measures face, especially when the respondent knows what the researcher (or teacher trainer) wishes to hear; (2) the ratings are sometimes subject to dis-

tortion. When is a +, a + and a zero, a zero? What does "generally" mean in a specific instance?; (3) There have been instances when respondents have asked for clarification of the meaning of some items, especially "informal involvement"; (4) in its present form, using the 15 criteria as they are, the OPSI doesn't discriminate adequately the qualitative differences in the implementation of some facets of a program environment. For example, a program could be completely laissez-faire or <u>don't care</u>, present only minimal options to children and still show up on the OPSI, as open as a program with many options and much informal teaching. This limitation can, of course, be overcome with greater specification of the criteria being rated.

What are some implications for you? The OPSI may be used in its present form or with other criteria which a user thinks better defines openness. If a teacher wishes to get an objective appraisal of the opportunities afforded children or the constraints within the program, the OPSI is completely adaptable for the purpose. The OPSI would also be useful to program planners or developers who wish to assure themselves that a certain amount of openness is present, either in the planning or in the implementation phases of a program being considered. The specificity of the OPSI procedure is one of its strongest assets and this specificity facilitates communication in both practical and research settings.

As a research instrument the OPSI is adaptable for several purposes. Because scores from the OPSI may be conceptualized as either independent or dependent variables, a variety of naturalistic as well as controlled studies are possible. Of particular interest are naturalistic studies relating openness in classrooms to differential growth or learning in children. Other kinds of studies might well determine the influence of different naturally occurring school administrations on the kind of school program implemented by the classroom teacher. Personality attributes might also be studied as they relate to preferences for or actual programs implemented by teachers. The influence of specific programmatic interventions including, for example, variations in in-service or pre-service training, on teachers and/or their classroom programs might also be examined with this procedure.

What then is open about open education? From my point of view, what makes a program open is the possibility of behaviors, activities, and events occurring. Even though the specific content of the open education programs may vary the degrees of freedom for behaving or the relative presence of opportunity for diverse involvement, do not. The procedures and research I've described represent an attempt to measure this facet of openness.